Amendments to the specification:

On page 8, please amend the paragraph contained in lines 2-18 as follows:

This formula has the advantage that it is represented by a particularly simple computational algorithm and that the execution of a corresponding piece of code is very fast. For the sake of simplicity, the new coefficients included in this second formula are represented here likewise as C0, C1, and C2 as in the first formula above. It is possible and may be advantageous to represent or calculate the new coefficients as a function of the coefficients of the first equation. These transformations can be represented by simple and computationally efficient algorithms. Using these relations is particularly ~~advantegeous~~ <u>advantageous</u> if the first named coefficients are already known and/or can be calculated in a simple manner. In a further embodiment, it is proposed that at least one of the coefficients C0, C1, and C2 is determined by means of a polynomial expression with linear and quadratic terms, depending on the operating parameters of the internal combustion engine with affect the lift of the outlet valve. This solution can likewise be represented by a very simple computer program which requires only minimal computational and memory resources. Furthermore, it may be possible to represent the coefficient C2 simply by a constant with a negative value.

On page 10, please amend the paragraph contained in lines 4-12 as follows:

It is furthermore proposed that the opening stroke or lift of the outlet valve is determined by means of a linear displacement sensor or position sensor. This sensor can be relatively simply installed at or integrated in the actuator of the outlet valve. As there is no need to place this sensor directly in the combustion chamber or on the level of its surface, thermal stress is not a problem, which allows ~~to use~~ the use of a comparatively cost-effective sensor equipment for this purpose. If a displacement or position sensor is used, the opening stroke of the outlet valve can be detected with ~~great~~ high accuracy, which, in turn, improves the accuracy of the calculation of the actual gas pressure according to the present invention.

Please amend the paragraph bridging pages 10-11 as follows:

It is also possible, however, to determine the lift of the outlet valve from other kinds of feedback signals which represent an indirect measure of the valve lift. For example, the valve lift can be determined from the time required for the corresponding closing process of the valve. This time duration, in turn, can be determined based on the respective control signal or event which initiates the closing the valve actuator, ~~an~~ and on the determination of the end of the closing process, which, for example, can be detected from the structure-borne noise caused by the impact of the outlet valve on the valve seat. Even with multi-cylinder internal combustion engines this characteristic noise signal can often be

detected by means of a single sensor, for example, a knock sensor which is already provided for other reasons, that is, for knock control. Hence this embodiment of the method of the present invention is particularly suitable to minimize system costs.

On page 17, please amend the paragraph contained within lines 11-18 as follows:

For an optimal control and/or regulation of the operation of the internal combustion engine 10, knowledge of the real, that is, the actual gas pressure in the combustion chamber 14 at the end of a ~~work cycle~~ working stroke is very important and useful. In order to determine the actual gas pressure in the combustion chamber 14 at the end of a working stroke of a respective cylinder 12, or precisely, at the time of opening of the outlet valve 36 of the cylinder, the relation between the actuation time tm and the valve lift h as described in equation 1 is reversed to obtain a correlation as shown in equation 2:

On page 19, please amend the first paragraph as follows:

In special case, the coefficient C2 depends only weakly on the actual operating parameters of the internal combustion engine. It can then be treated in a good approximation as a constant, which has a negative value. Generally, the functions in equations 4 to 6 can be represented in a sufficiently good approximation by polynomials with linear and quadratic terms. In order to simplify these polynomials, it can be advantageous to describe the dependency

on the angle wao of the crank shaft 20 at which the outlet valve 36 opens, by way of substitution, as a dependency on a combustion chamber volume Vbr which itself depends on the angular position wao. Also, a variable representing the (relative) rate of change of the combustion chamber volume Vbr with respect to the angular position, or crank angle, of the crank shaft 20 proves very suitable for a simplification of the above-mentioned polynomials. This functional dependency can be represented and calculated in a simple manner, for example, by way of a characteristic line or a polynomial approximation depending on the angle wao.

Please amend the paragraph bridging pages 21-22 as follows:

Before the actual working cycle, a predicted value paopred (block 72) for the gas pressure in the combustion chamber at the time of the opening of the outlet valve 36 in the actual working cycle is ~~determineded~~ determined by means of a functional block 74, based on a set of operating parameters BG of the internal combustion engine which are controlled and/or estimated for the actual working cycle by the electronic control unit 52. The operating parameters include, for example, an ignition angle, an injected fuel mass, a time or crank angle where the outlet valve is required to start opening, a combustion air mass, and so on. In block 75, a difference d between the predicted gas pressure paopred and the determined actual gas pressure paoact is formed. In block 78, depending on the difference d, the function func_paopred which is used to predict the gas pressure paopred in block 74, or more specifically and by way of example, a set of application or adaptation data employed in the computation of

this function, is corrected or adapted in order to improve the prediction. This adaptation compensates for effects of a possible drift of engine parameters, typically caused by a wear of components, thereby guaranteeing that the absolute values of the deviation d will stay sufficiently small and, hence, the prediction paopred sufficiently precise in the course of time. In addition, depending on the difference d a piece of information INF is generated in block 80. More specifically, this may encompass, for example, the generation of an entry in a fault code memory or the issuing of a warning signal, when the difference d exceeds a predetermined threshold. The exemplary representation of the method of the invention (as shown in Figure 3) terminates in block 82.